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ABSTRACT

When talking about different faculties designing a single performance-based module, one is faced immediately with 2 sets of opposing views. The first has to do with the conflict between a strict discipline orientation and interdisciplinary, cross-disciplinary, or non-disciplinary work. The second set of conflicts arises from the differences between preparing materials for teaching and preparing materials for learning. From the standpoint of the curriculum, there are three reasons why faculty need to cooperate to design modules: (1) to eliminate redundancy, (2) to unite two or more discipline areas, and (3) to focus on issues which are essentially adisciplinary. The faculty must decide on the scope of the module, agree on the objectives, select the critical materials for all disciplines involved, remove disciplinary biases and, if necessary, use special introductory materials to lead in from the various disciplines. Among the major problems encountered are: overprotectiveness of the discipline, inability to describe common objectives, overinclusiveness, and hesitancy in fully accepting the new module in all discipline areas involved. However, the enrichment of the curriculum and the savings in student time warrant the use of modules. (Author/PG)

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THE PERFORMANCE-BASED CURRICULUM: HOW DIFFERENT FACULTIES CAN DESIGN A SINGLE INSTRUCTIONAL MODULE

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When we talk about different faculties designing a single performance-based module, we are faced immediately with two sets of opposing views. The first of these has to do with the conflict between a strict discipline orientation and interdisciplinary, cross-disciplinary, or non-disciplinary work. The second set of conflicts arises out of the difference between preparing materials for teaching and preparing materials for learning.

Let me deal briefly with the problems of teaching-centered versus learning-centered materials, and then move on to the problems and potentials of integrating discipline-oriented materials. I have been asked if my ten-year goal for College IV and modular instruction includes a module revolution for American undergraduate education. My answer is an emphatic "NO." There are areas in every curriculum where learning modules which may be studied independently will be of great value. Modules work very well for selective remediation in skills such as reading, writing, and mathematics, and are also useful for representing relatively esoteric areas where the clientele will be small.

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Auto-instructional learning packages have great value for persons who are unable to attend regular classes. College IV has a program in the Kent County Jail for inmates, and a program at a local manufacturing concern where employees are allowed to consult with visiting faculty during break time.

Rather than seeing modules replace lectures throughout our colleges and universities, I think a far more reasonable and worthwhile goal would be the raising of the consciousness of undergraduate faculties to recognize the value of setting explicit objectives for the materials they teach. If all faculty members analyzed their course materials from the standpoint of deciding what their students must know, and if they then arrange the materials to truly facilitate student learning, it would not matter whether the materials were delivered by lecture, discussion, tutorial, or what-have-you. If we could bring about a change from "what shall I teach?" to "what should they learn?" we would have moved a long way.

Let me focus now on the problems and potentials relating to integration of discipline-oriented materials. From the standpoint of the curriculum, there are three reasons why faculty need to cooperate to design modules: 1) to eliminate redundancy, 2) to unite two or more discipline areas, and 3) to focus on issues which are essentially adisciplinary.

In a study of the engineering curriculum at UCLA in the mid-60's, it was found that there was a 40% redundancy in the teaching of mathematical concepts. That is, most professors were back-tracking over previously plowed ground before going on. For many students the review was worthwhile, but for others it was a waste of time. When the curriculum was analized and this redundancy was found, it was possible to construct packages including the mathematical concepts, which were then assigned to students. Professors could then assume that the students had studied the prerequisite mathematics and could go from that point. Where students needed to review, the onus was on them to do so. In our own curriculum both the chemistry sequence and the biology sequence had a module on the metric system. These two have now been combined into a single module.

In many areas there are natural bridges between two or more disciplines, such as between psychology and sociology. Common modules representing a hybrid of two or more areas will be developed to add enrichment to the curriculum.

When one addresses such issues as environmental problems, or poverty, one finds that several disciplines are relevant to the issue. Therefore, a group of faculty may well put together one or more modules on a topic such as poverty and may give it a problem-solving focus.

To create one or more modules in any of these three areas the faculty participants must make a few preliminary decisions.

They must first decide on the scope of the module. The tendency is to let the module grow out of some informal discussions and to find quickly that it encompasses far too much to be practical. Thus, one of the early problems is that of over-inclusiveness, and this must be dealt with by setting a limit on the estimated effort to be required of the student. Secondly, the group must agree on the objective of the module. This is sometimes quite difficult. The stimulus for developing such an interdisciplinary module usually comes from several independent viewpoints. Thus, the stating of a single comprehensive objective for the module requires a compromise on the part of all participants. In many cases, each participant must learn something more about the discipline of his or her colleagues before an agreement can be reached. This is, of course, one of the more exciting aspects of such an exercise.

Next, the group must select the critical materials from all of the disciplines involved. The key word here is "critical." It is easy to put together enough materials for a textbook in a module which may carry one credit. Here one has to guard against the sin of pride. There is a natural tendency to want to show your colleagues that you really "know your stuff." Selectivity coupled with humility should be the order.

The next problem is to remove the disciplinary biases which are naturally built in through the cooperative effort of several faculty. At this stage the territorial imperative rears its

ugly head, and a breakdown in communication often occurs. Each participant is convinced that the material cannot be presented without the trappings of his or her particular discipline being appended. A further argument used is that to remove these materials which are considered fundamental by the proponent, and superfluous by the other team members, will result in a dull, sterile module. As this unproductive discussion continues, the telling blow is usually delivered in a form such as "Well, this module would not be acceptable to me and my colleagues for credit in our department."

To get beyond this point, a tactic which is used successfully is that of placing the discipline-oriented trappings into a series of introductory comments or statements leading into the module. In this way, the module may be cleansed, thus preserving its original objective, and the consciences of the participants will be clear because they have preserved those elements considered to be essential prerequisites to the module.

The faculty are then ready to begin the actual writing. A working outline should be constructed and sections assigned to participants. After an initial draft is complete it should be read and criticized by all. This is a tough job and insecurities pop up, but good will and constructive criticism will see them through.

The format of the module may be left until the first materials are seen. In general a useful module will begin with a rationale which lets the student in on the reason for learning the material.

There should be a clear objective stated in terms which allow both the student and testor to have a definite end point in mind. Avoid such fuzzies as the student will "appreciate," "understand", "to be aware of", etc. Ask for a performance that is measurable.

The objective is followed by the study guide and list of student activites involved in learning the material.

Finally, a self-assessment should be provided for the student. This serves as a test of his or her learning, is a reminder to restudy that which is not clear, and a positive reinforcer when used with the mastery exam.

An important consideration is the use of visual and sound media other than the printed word. My view is that the material should dictate the media - and not the reverse.

With costs of various media varying over a range of several orders of magnitude, one should be selective in choosing the appropriate medium to best present the message - but the message is the most important.

It is best to do a trial version of the module for use first. Be explicit in stating that the material is preliminary. This will assure that colleagues and students will be freer to give constructive advice and criticisms. It also reduces the natural anxiety surrounding putting one's name in print before the public.

Use students as creators, writers, and consumers of the module. Their inputs are valuable and their particular orientation as learners will help avoid many pitfalls. They will also put forth enormous effort to do excellent creative work. Reward them with an acknowledgement or co-authorship.

To summarize , the faculty must decide on the scope of the module, agree on the objective, select the critical materials from all disciplines involved, remove disciplinary biases, and if necessary, use special introductory materials to lead in from the various disciplines. Among the major problems encountered in this task are over-protectiveness of the discipline, inability to describe common objectives, over-inclusiveness, and hesitancy in fully accepting the new module in all discipline areas involved. The primary potentials of this exercise are enrichment of the curriculum, excitement for the cooperating faculty, critical analysis of learning materials, and a savings of student time.

At this point let me mention once again that the form of a module certainly ought to be variable and will be dictated somewhat by the materials available for inclusion. Our faculty have three basic types of modules available. The simplest to construct are those in which an objective, a rationale, a study guide keyed to a standard textbook, and a self-assessment are assembled.

To be effective, the study guide must do more than list chapter and verse. It must be carefully thought out to call attention to important points, obscure facts, and potential roadblocks.

The second type of module used is one in which the study guide incorporates some reprints or other commercial material and some original writing. Obviously, this second type requires more effort to construct, but is often more satisfying to both the faculty member and the student.

The third type of module is one totally constructed by the faculty member. This contains all original writing and is a massive effort. Needless to say, time constraints often dictate that preliminary editions are of types one and two, and later editions are of type three.

In modules designed by a committee, the second type incorporating a variety of material, both original and secondary, will most likely be used.

I would like to comment briefly on the institutional climate in which innovation can take place. In order for true innovation and growth of the curriculum to occur there must be institutional commitment at the highest levels. Without positive and sustained support from the President, Vice-President and Dean, there will be only sporadic and largely ineffective attempts at real change. The goals of the institution must be such that creativity and innovation are recognized, respected, and rewarded.

Although there are many things which administrators can do to foster creativity and innovation, I will mention only ~~three~~ four. In the budget-making process, provisions should be made so that each unit, whether a department or a school, has some venture capital available to it. In times of tight budgets, this is a difficult proposition, but one that is absolutely essential. Such discretionary funds, even if small, can have a great multiplier effect when combined with the willing contribution of time from dedicated faculty. A second way to foster innovation is to set aside for the unit a portion of the indirect costs resulting from any grants initiated by that unit. This provides a real incentive to find outside support for the innovative activities of a department or school. Third, and most important in the long-run, is the necessity of developing policies for faculty retention and promotion which include recognition of scholarly and innovative contributions to the instructional program.

Finally - faculty exchange - Sabbatical program

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